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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,972	09/11/2003	Matthew S. Shafer	X-1325 US	5052

24309 7590 09/22/2004

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EXAMINER

GILMAN, ALEXANDER

ART UNIT PAPER NUMBER

2833

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,972	Applicant(s) SHAHER, MATTHEW S.	
	Examiner Alexander D Gilman	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, are rejected under 35 U.S.C. 102(b) as being anticipated by the Admitted prior art.

With regard to claims 1-4, the admitted prior art (Fig. 3 of the specification) discloses a connector for connecting a circuit board to backplane, comprising:

a first (320) and second (322) transmit connection positions in a direction;

first (324) and second (326) receive connection positions; and a ground shield positioned in the direction between the first and second transmit connection positions (The specification, p. 4, paragraph 11) and the first and second receive connection positions,

wherein the first (320) connection position do not have an adjacent ground shield in a perpendicular direction (the shield 240 being adjacent to the second (322) transmit connection position only) .

With regard to claims 5,6, the admitted prior art (the specification, p. 2, paragraph 7) discloses differential pairs arrangement of contacts.

With regard to claim 9, the admitted prior art (Fig. 3 of the specification) discloses a connector to a serial backplane comprising:

a first plurality of receive connection elements (324, 326) on the connector for at least two serializer/deserializer modules, wherein two receive connection elements of the first plurality do not have a first interposing ground plane;

a second plurality of transmit connection elements (330, 332) for the at least two serializer/deserializer modules, wherein

the second plurality of transmit connection element is separated from the first plurality of the receive connection elements by a second interposing ground plane (the dotted line in fig 3 and the specification, p. 4, paragraph 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Ortega et al.

The prior art discloses all of the limitations except for single ended connection positions.

Ortega et al (US 6,527,587) discloses a variety of arrangements of the connection positions (col. 5 , lines 8-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the prior art connector with single ended connection positions, as taught by Ortega et al , to use it for the connector applications with signal rate less than 1 GHz.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Rothermel et al.

With regard to claim 13, the admitted prior art disclose (Fig. 3) a method for connecting a plurality of serializer/deserializer modules to a backplane, comprising:

selecting a plurality of transmit/receive pairs (for example columns 310 and 312) from

the plurality of serializer/deserializer modules , wherein

each transmit/receive pair has an associated transmit connection structure and an associated receive connection structure in a connector; and

configuring a ground structure (240) between the associated transmit connection structures and the associated receive connection structures.

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The admitted prior art does not disclose that there is no interposing ground structure between the associated receive connection structures (for instance between 326 and 344).

Rothermel et al (US 6,384,341) disclose (Fig. 4) the ground configuration without interposing ground structure between the associated receive connection structures (the differential pairs of line F are separated from line E with the ground structure 102).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the prior art connector with the ground configuration without interposing ground structure between the associated receive connection structures, as taught by Rothermel et al, to control cross-talk with reasonable number of ground structures.

With regard to claim 14, the admitted prior art when modified by Rothermel et al, disclose (the admitted prior art) that the plurality of serializer/deserializer modules are part of a programmable logic device (the specification, p. 1, paragraph 4).

.With regard to claims 15, 16, the admitted prior art when modified by Rothermel et al, disclose (the admitted prior art) MGT and FPGA and PCB (the specification, p. 1, paragraph 4)

Allowable Subject Matter

Claims 10-12, 17 are allowed.

No prior art has been found to anticipate or render obvious the presently claimed subject matter.

Specifically, none of the prior art of record discloses the combination of the limitations presented including the arrangement of the signal contacts of two adjacent serializer-deserializer modules with the specified disposition of ground planes.

Response to Arguments

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Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 13-16, Applicant's arguments filed 06/28/2004, have been fully considered but they are not persuasive.

Applicants argue that in the first office action removing the part of ground structure 240 between RXN 326 and RXP 344 was conducted with the motivation of reducing cross-talk.

However, the Office action did not suggest that removing the part of ground structure 240 between RXN 326 and RXP 344 was conducted with the motivation of reducing cross-talk. The combination of the prior arts suggested removing the part of the ground structure with aim to control cross-talk with reasonable number of ground structures. The ground structures in the both directions are not cost-effective (For example, the current specification, para. 11). The secondary reference (Rothermel) was utilized for suggestion of the ground structures just in one the specified direction.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

09/17/2004

Alex Gilman

**ALEXANDER GILMAN
PRIMARY EXAMINER**